AIR QUALITY PERMIT

Issued to:	Stillwater Mining Company	Permit: #2653-05
	East Boulder Operations	Administrative Amendment (AA) Request Received: 7/12/06
	P.O. Box 789	Additional Information Received: 9/22/06
	Big Timber, MT 59011	Department Decision on AA: 10/10/06
		Final Permit: 10/26/06
		AFS #30-097-0001

An air quality permit, with conditions, is hereby granted to Stillwater Mining Company – East Boulder Operations (Stillwater Mining Company) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.701, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

Sections 2, 3, 11, 19, 26, 28, and 34, Township 4 South, Range 13 East, Sweet Grass County, Montana.

B. Current Permit Action

On July 12, 2006, with an additional submittal on September 22, 2006, Stillwater Mining Company notified the Department of Environmental Quality (Department) of various changes to the facility in accordance with the provisions contained in the Administrative Rules of Montana (ARM) 17.8.745 (de minimis rule). In addition, Stillwater Mining Company submitted a request for an administrative amendment to permit #2653-04 under the requirements contained in ARM 17.8.764(1)(b). A more complete discussion of the current permit action is contained in Section I.C of the permit analysis to this permit.

SECTION II: Conditions and Limitations

A. Operational and Emission Limitations

1. Nitrogen oxide (NO_x) emissions from electrical generation shall be limited to 65 tons per year. This limitation shall be verified through manufacturer information on the generator(s) or by performance testing of the actual generator(s) to be used (ARM 17.8.749).

2. Stillwater Mining Company shall not cause or authorize to be discharged into the atmosphere, from the Nordberg surface crusher, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60 Subpart LL).

3. Stillwater Mining Company shall not cause or authorize to be discharged into the atmosphere from the stacker tower baghouse (controlling the crusher exit conveyor and the stacker tower transfer conveyor) any stack emissions that (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart LL):

   a. Contain particulate matter in excess of 0.05 grams/dscm; and

   b. Exhibit greater than 7% opacity.

4. All process fugitive emissions are subject to an opacity limitation of 10% (ARM 17.8.340 and 40 CFR Part 60, Subpart LL).

5. Stillwater Mining Company must use reasonable precautions to minimize fugitive dust with respect to all construction and operation activities related to the project. This would include watering and/or chemical stabilization of roads and work areas on an as-necessary basis and adequate control of any process or material handling operations. With respect to the mine access road, Stillwater Mining Company must work in consultation and coordination with Sweet Grass County and the U.S. Forest Service to minimize particulate emissions from their respective portions of the road (ARM 17.8.749).

6. Stillwater Mining Company shall be limited to a maximum of 730,000 tons of ore production during any rolling 12-month time period (ARM 17.8.749).

7. Stillwater Mining Company shall be limited to a maximum of 730,000 tons of waste rock handled during any rolling 12-month time period (ARM 17.8.752).

8. Stillwater Mining Company shall be limited to a maximum of 132,000 tons of borrow material to be crushed during any rolling 12-month time period (ARM 17.8.752).

9. Stillwater Mining Company shall be limited to a maximum of 730,000 tons of ore processed in the surface crushing system during any rolling 12-month time period (ARM 17.8.749).

10. Stillwater Mining Company shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR Part 60, Subpart LL (ARM 17.8.340 and 40 CFR Part 60).

11. Stillwater Mining Company shall not cause or authorize to be discharged into the atmosphere any visible emissions from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

12. Stillwater Mining Company shall not cause or authorize to be discharged into the atmosphere any visible non-process fugitive emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.308).

13. Stillwater Mining Company shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308 and ARM 17.8.749).

14. Stillwater Mining Company shall treat all unpaved portions of the haul roads, access roads, and the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.13 (ARM 17.8.749).

15. Water and/or chemical dust control shall be available on site at all times, and operated as necessary, to maintain compliance with the opacity limitation in Section II.A.11 and Section II.A.12 (ARM 17.8.752).

16. The following list contains the required emission control technologies and techniques to be operated and maintained.

a. Surface Screening of Borrow Material – covered conveyors and transfer points (ARM 17.8.752).

b. Ore Apron Feeders – covered conveyors and transfer points (ARM 17.8.749).

c. Dumping Waste Rock by Stacker – covered conveyors and transfer points (ARM 17.8.752).

d. Underground Crusher – baghouse (ARM 17.8.749).

e. Stacker Tower Transfer Conveyor – stacker tower baghouse (ARM 17.8.749).

f. Surface Crushing of Ore and Waste Rock – covered transfer points and water spray and/or chemical dust suppression as necessary (ARM 17.8.752).

g. Surface Crushing Operations Material Transfer – covered conveyors and transfer points (ARM 17.8.752).

h. Crusher Exit Conveyor – covered transfer point with baghouse pickup intake to stacker tower baghouse (ARM 17.8.752).

B. Testing Requirements

1. The Nordberg crusher, the crusher exit conveyor (via stacker tower baghouse), the stacker tower conveyor (via stacker tower baghouse), and any other affected equipment under 40 CFR 60, Subpart LL, shall be tested and compliance demonstrated with the emission limitation contained in Section II.A.2, Section II.A.3, and Section II.A.4 within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of the system. The test shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.105, ARM 17.8.340, and 40 CFR 60, Subpart LL).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

3. The Department may require further testing (ARM 17.8.105).

C. Operational and Reporting Requirements

1. Stillwater Mining Company shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to (ARM 17.8.749):

a. The amount of ore and waste handled (annual basis and the maximum daily amount),

b. A summary of dust control activities, including types and amounts of chemical stabilizers used, application areas, and general watering schedules where applicable (the summary should include dust suppression activities on the U.S. Forest Service and county portions of the access road), and

c. The status of employee busing.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Stillwater Mining Company shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.705(1)(r), that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation, or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.705(1)(r)(iv) (ARM 17.8.705).

3. Stillwater Mining Company shall document, by month, the total tons of ore processed in the surface crushing system, tons of waste rock handled, and the total tons of borrow material to be crushed. By the 25th of each month, Stillwater Mining Company shall total each of these values during the previous 12 months to verify compliance with the limitation in Section II.A.6, II.A.7, and II.A.8. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).

4. Records of the generator(s) operating hours, loads, and fuel usage shall be maintained on site.

5. Stillwater Mining Company shall provide the Department with written notification of the following dates within the specified time periods as required for 40 CFR Part 60, Subpart LL affected facilities including, but not limited to, the surface Nordberg crusher and the crusher exit conveyor (ARM 17.8.340 and 40 CFR 60, Subpart LL).

   a. Commencement of construction within 30 days after commencement of construction,

   b. Anticipated start-up date between 30 and 60 days prior to anticipated start-up date, and

   c. Actual start-up date within 15 days after the actual start-up date.

SECTION III: General Conditions

A. Inspection – Stillwater Mining Company shall allow the Department's representatives access to the source at all times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Stillwater Mining Company fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Stillwater Mining Company of the responsibility for complying with any

applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.701, *et seq.* (ARM 17.8.717).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department's decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department's decision until the conclusion of the hearing and issuance of a final decision by the Board.

F. Permit Inspection – As required by ARM 17.8.716, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Stillwater Mining Company may be grounds for revocation of this permit, as required by that Section and rules adopted thereunder by the Board.

H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.731).

PERMIT ANALYSIS
Stillwater Mining Company – East Boulder Operations
Permit #2653-05

I. Introduction

A. Project Description

The Stillwater Mining Company - East Boulder Operations (Stillwater Mining Company) consists of an underground mine, an ore processing mill, a surface mine/mill support complex, a tailings retention impoundment, and other secondary facilities. The majority of the surface facilities are located adjacent to the mine access adit in the East Boulder valley on Stillwater Mining Company mill site claims. Other surface construction is located on Stillwater Mining Company patented or mineral load claims.

The proposed permit area encompasses a total of approximately 844 acres, in three separate locations. The total area of disturbance, within the permit area, will be approximately 233 acres.

During exploration, an 18,500-foot tunnel was driven to intersect the ore-bearing zone (the J-M reef). A tunnel-boring machine, approximately 16 feet in diameter, was used to bore this tunnel. After the reef was intersected, additional development was required to complete the other phases of the exploration program. In total, approximately 730,000 tons of waste rock and a 3,000-ton bulk ore sample were extracted and handled.

The mine ore production rate is limited by permit to a maximum of 730,000 tons of ore per year. The life of the operation will ultimately be determined by the economic viability of the operation, which is a function of metal prices, ore grade, continuity of the ore-zone, and the cost of production. An operating life in excess of 25 years is anticipated.

All ore and waste rock produced from the mine is transported to the surface via the primary mine entry facility, the East Boulder adit. Under the alternative proposal, twin adits would be constructed, eliminating the Brownlee Creek adit. The ore is conveyed to a semi-autogenous (SAG) mill for grinding, followed by concentration in a flotation mill located adjacent to the adit. The grinding process in the SAG is wet. This mill produces a flotation concentrate in the ratio of approximately 1 ton of concentrate for each 100 tons of ore processed. The concentrate is shipped from the project site by truck for further processing in Stillwater Mining Company's Columbus smelter.

Stillwater Mining Company crushes and handles waste rock and borrow material in conjunction with construction activities. This crushing and material handling is separate from the crushing and material handling for the ore.

Tailings from the mill are disposed of in a lined tailings impoundment located immediately north and west of the mill complex. The tailings impoundment is designed to retain approximately 40 percent of the total volume of tailings. The remaining 60 percent are returned underground for use as backfill in the stope mining process. The tailings impoundment is constructed from mine waste rock and borrow materials excavated from the interior of the pond area, and occupies approximately 105 acres of land area.

Mine waste rock is also used as fill material in underground mined-out stopes or for miscellaneous construction purposes throughout the project. Surplus waste rock is used in reclamation or disposed of in waste rock storage piles.

The proposed operation employs approximately 600 workers during steady state operating conditions. A substantial number of workers are expected to be drawn from the local labor force.

B. Permit History

Permit #2670 was issued on April 1, 1991, for an underground exploration project and related surface facilities at the East Boulder Project. Stillwater PGM Resources applied for an air quality permit for exploration activities on November 7, 1990; the application was deemed complete on December 3, 1990. On February 4, 1991, Stillwater PGM Resources submitted a revision to the application. The revision included proposing the use of a generic electrical generation system to allow some flexibility in the type and number of generators to be used. Approximately 3.5 megawatts of power would be required. The generator(s) could be propane-fired or diesel-fired with add-on emission controls or possibly a combination of generators. The limiting factor was NO_x emissions from the system and the ability to comply with the Class II Prevention of Significant Deterioration (PSD) NO_2 increment. Based on dispersion modeling results, a total of 65 tons per year of NO_x emissions from the generator(s), in conjunction with the other project-related NO_x emissions, was allowable.

PSD regulations did not directly apply to the project because potential emissions were less than 250 tons per year. Therefore, the source was not a major stationary source. However, the baseline date was triggered for sulfur dioxide (SO_2) and nitrogen dioxide (NO_2); these pollutants consume allowable PSD increment. Modeling was conducted to determine that the impacts of NO_2 and SO_2 emissions were small enough that modeling was not required to be performed.

The operational **permit #2653** for the underground platinum/palladium mining operation and ore-processing facilities was issued on August 19, 1992. PSD permit requirements were not applicable because estimated emissions of any pollutant were less than 250 tons per year. Although the PSD regulations did not directly apply, a demonstration was required to verify compliance with the PSD NO_2 increment. With respect to maximum allowable increases (PSD increments), only NO_2 and SO_2 emissions from this project would consume increment because the baseline is triggered for these two pollutants, but not for particulate matter. Under the Montana PSD regulations, particulate baseline areas are defined as the impact areas of major sources, while the baseline is defined as the entire State for NO_2 and SO_2. There are no particulate baseline areas that would be impacted by this project. Therefore, there would be no increment consumption (particulate increases would become part of the baseline).

Stillwater Mining Company applied for **permit #2653-01** on November 11, 1995. The application was deemed complete on January 23, 1996. The application proposed changing the on-site electrical generation system. Based on manufacturer supplied data, there would be an increase in allowable NO_x emissions of 176 tons per year and a decrease in sulfur dioxide of 43 tons per year. The two permits were proposed to be consolidated as part of the permitting action. On May 14, 1996, a draft preliminary determination was issued. The permit was not issued due to EPA's interpretation that all NO_x emissions, including those from minor sources, consume PSD increments. Stillwater Mining Company withdrew the application on July 7, 1999.

On October 15, 1999, **permit #2653-02** was issued as a modification. The request proposed: 1) changing the control device specified on the concentrate dryer from a wet scrubber to a baghouse; 2) modifying the ambient air quality monitoring requirements; 3) clarifying that crushing and material handling of bedding material is permitted; and, 4) changing the permit name to Stillwater Mining Company – East Boulder Operations.

The Department of Environmental Quality (Department) agreed to change the control device on the concentrate dryer from a wet scrubber to a baghouse. The emission limitation from the concentrate dryer did not change; therefore, the dryer's allowable emission rate would not increase as a result of changing the control device specification.

Stillwater Mining Company proposed to change the ambient air quality monitoring by 1) reducing the sampling frequency from every 3rd day year round to every 3rd day May through October and every 6th day November through April; 2) waiving the requirement to operate a collocated PM-10 sampler; and 3) eliminating the requirement for trace element analyses. The Department agreed to reduce the sampling at the East Boulder Operations. Stillwater Mining Company did not operate collocated sampling at any other site; therefore, collocated sampling is required at the East Boulder site. The Department agreed to drop the trace element analyses because there were no enforceable standards to compare the values to and the ore and waste rock at the East Boulder Operations were similar to the Nye Operations, which did not demonstrate any problems.

Neither of Stillwater Mining Company's permits (#2653-00 or #2670) clearly specify that crushing and material handling, in conjunction with construction activities, is covered in the permits. However, the Department's files include correspondence from Stillwater Mining Company requesting this activity be included in permit #2653-00 before it was issued. Based on that correspondence, the Department was aware that Stillwater Mining Company intended to conduct crushing and material handling in conjunction with construction activities. This crushing and material handling was separate from the crushing and material handling for the ore; therefore, the activity was covered in permit #2653-00. Crushing and material handling, in conjunction with construction activities at the facility, is covered in permit #2653-02. **Permit #2653-02** replaced permits #2653-00 and #2670-00.

Stillwater Mining Company submitted an application for the alteration of permit #2653-02. The proposed alteration included an increase in the amount of waste rock to be handled at the operation; changes in equipment for ore and waste handling; an increase in the acreage for soil stock piles and disturbed areas; and a change in the language of the existing permit regarding ambient air monitoring. **Permit #2653-03** replaced permit #2653-02.

Stillwater Mining Company requested an increase in the maximum amount of waste rock to be handled, from 350,000 tons per year to 730,000 tons during any rolling 12-month time period. Also, the amount of waste rock does not include the borrow material to be crushed (132,000 tpy). The increase in the waste rock handled affected the particulate emissions from the stacking, hauling, and spreading of material. Stillwater Mining Company submitted modeling to demonstrate compliance with the ambient standards and the limitations were changed. Any proposed increase above these levels would require a permit alteration because these numbers were used in developing the emission inventory and dispersion modeling for the facility.

The second proposed action included three conveyor transfers on the ore/waste stacker and three conveyor transfer points from the apron feeder to the SAG mill. The action

was approved and a complete list of emission controls was placed in the permit. These controls were used in the emission inventory calculations.

The third request was to increase the soil stockpile from 5 acres to 19 acres and the disturbed area from 150 to 200 acres. Also, Stillwater Mining Company constructed and implemented the twin adit proposal that was approved by the Agencies in the supplemental EIS.

Stillwater Mining Company constructed an overhead power line to supply the main source of electric power. On-site electrical generators are used for emergencies only. Permit #2653-02 contained notification requirements that stated "Prior to the commencement of operation, the recipient must submit to the Department a description of the electrical generation system to be used, including any emission data available." This condition was removed.

Stillwater also requested clarification of the language in the Ambient Air Monitoring Plan that requires Stillwater to begin monitoring at the time the facility enters a production status. **Permit #2653-03** replaced permit #2653-02.

On February 15, 2001, Stillwater Mining Company submitted a complete permit application for proposed changes to permit #2653-03. As part of the current permit action, Stillwater Mining Company proposed to construct and operate a surface ore crushing system and associated ore handling facilities. The surface crushing system was to be used in place of the previously permitted underground crushing system until the underground crusher was built and ready for installation. After completion of the underground crushing system, Stillwater Mining Company will maintain the surface crushing system for emergency use and back-up operations.

In addition, Stillwater Mining Company proposed to remove the concentrate dryer and all associated requirements from the air quality permit. The concentrate dryer was to be constructed at the East Boulder site; rather, it was constructed and put into operation at the Stillwater Mining Company – Columbus facility. **Permit #2653-04** replaced permit #2653-03.

C. Current Permit Action

On July 12, 2006, with an additional submittal on September 22, 2006, Stillwater Mining Company notified the Department of various changes to the facility in accordance with the provisions contained in ARM 17.8.745 (de minimis rule) and also requested an administrative permit amendment to the existing permit under the provisions contained in ARM 17.8.764(1)(b). Specifically, Stillwater Mining Company proposed the following changes under the current permit action:

- Addition of two new mine portal heaters under the de minimis rule,
- Removal of the currently applicable daily ore production limit of 3500 tons per day and maintenance of the annual ore production limit of 730,000 tons per year under an administrative amendment,
- Removal of the currently applicable ambient PM_{10} air quality monitoring requirements under an administrative amendment, and
- A change to the emission inventory contained in the permit analysis to reflect updated emission factors applicable to facility operations.

Because potential emissions from two new mine portal heaters are less than 15 tons per year (cumulative), the project meets the criteria for a de minimis change. Because removal of the ton per day ore production limit will not result in any annual increase in allowable emissions, the proposed change can be accomplished under an administrative amendment. Further, through historic ambient air quality monitoring activities, Stillwater Mining Company has demonstrated to the Department's satisfaction that cessation of the currently applicable ambient PM_{10} monitoring program is appropriate. Finally, through source testing, Stillwater Mining Company has demonstrated to the Department's satisfaction that the emission factors previously used to estimate emissions from facility mine ventilation exhaust are no longer appropriate. The existing permit has been amended to include the above-cited changes. **Permit #2653-05** replaces Permit #2653-04.

D. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations, or copies where appropriate.

A. ARM 17.8, Subchapter 1 - General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   Stillwater Mining Company shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 - Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
6. ARM 17.8.221 Ambient Air Quality Standard for Visibility
7. ARM 17.8.222 Ambient Air Quality Standard for Lead
8. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

Stillwater Mining Company must comply with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 - Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into an outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Stillwater Mining Company shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.

6. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). The owner or operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, shall comply with the standards and provisions of 40 CFR Part 60.

   Subpart LL - Metallic Mineral Processing Plants - requires opacity limitations of 10% on process fugitive emissions, 7% on baghouse stack emissions, and a stack particulate emission limitation of 0.05 grams per dry standard cubic meter. All process operations at this facility are affected facilities, unless otherwise excluded in 40 CFR 60, Subpart LL.

D. ARM 17.8, Subchapter 5 - Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. The current permit action is an administrative amendment and does not require an application or application fee.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

E. ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Stillwater Mining Company has a PTE greater than 25 tons per year of PM_{10}, NO_x, and CO; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. The current permit action is an administrative amendment and does not require a permit application.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The current permit action is an administrative amendment and does not require a BACT analysis and determination.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Stillwater Mining Company of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10. The current permit action is an administrative amendment.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through

ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the Federal Clean Air Act (FCAA) that it would emit, except as this subchapter would otherwise allow.

This facility is not a major source because it is not listed and it does not have the potential to emit above 250 tons per year (excluding fugitive emissions) of any pollutant.

G. ARM 17.8, Subchapter 12 - Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

   a. Potential to Emit (PTE) > 100 tons/year of any pollutant;

   b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), or PTE > 25 tons/year of a combination of any HAPs, or a lesser quantity as the Department may establish by rule;

   c. Sources with the PTE > 70 tons/year of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. 1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2653-05 for Stillwater Mining Company, the following conclusions were made:

   a. The facility's PTE is less than 100 tons/year for any pollutant.

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAPs.

   c. This source is not located in a serious PM-10 nonattainment area.

   d. This facility is not subject to any current NSPS.

   e. This facility is not subject to any current NESHAP standards.

   f. This source is not a Title IV affected source or a solid waste combustion unit.

   g. This source is not an EPA designated Title V source.

   Based on these facts, the Department has determined that Stillwater Mining Company will be a minor source of emissions as defined under Title V.

III. Emission Inventory

TABLE I – Particulate Emissions							
Emitting Unit (EU)		**Uncontrolled Emissions**		**Control Strategy**	**Percent Reduction**	**Controlled Emissions**	
EU #	**EU Name**	**PM**	**PM_{10}**			**PM**	**PM_{10}**
1/01	Newly Disturbed Areas	0.17	0.09	None	0	0.17	0.09
1/02	Waste Stockpile (Disturbed Area)	0.02	0.01	None	0	0.02	0.01
2	Mine Ventilation Exhaust	3.73	3.73	None	0	3.73	3.73
3	Coarse Ore Dumping @ Trestle	3.65	1.46	Water Spray (as necessary)	50	1.83	0.73
5	Waste Rock Dumping @ Trestle	3.65	1.46	Water Spray (as necessary)	50	1.83	0.73
6	Tailings	0.03	0.01	None	0	0.03	0.01
7/01	Haul Roads (> 50 ton)	150.79	38.43	Water Spray and/or Chemical Dust Suppressant (as necessary)	85	22.62	5.76
7/02	Haul Trucks & Loaders (< 50 ton)	135.45	34.52	Water Spray and/or Chemical Dust Suppressant (as necessary)	85	20.32	5.18
7/03	Light Vehicles	28.47	7.26	Water Spray and/or Chemical Dust Suppressant (as necessary)	85	4.27	1.09
9	Mobile Vehicle Exhaust	2.21	2.21	None	0	2.21	2.21
10	Diesel Generators (3 – Surface)	0.25	0.20	None	0	0.25	0.20
11	Mobile Gasoline Exhaust (Surface)	0.02	0.02	None	0	0.02	0.02
12	Propane (Surface)	0.06	0.06	Good Combustion Practices	0	0.06	0.06
13	Topsoil Removal	6.85	0.83	None	0	6.85	0.83
14	Topsoil Loading, Dumping, Screening	7.56	1.97	None	0	7.56	1.97
15	Bulk Loading (Borrow)	0.03	0.01	None	0	0.03	0.01
17	Topsoil Stockpile	1.90	0.95	Re-Vegetation	75	0.48	0.24
18	Coarse Ore Stockpile	0.00	0.001	None	0	0.00	0.001
19	Waste Loading (from Trestle Drop into Bench Stockpile from Loader)	7.30	2.92	Water Spray (as necessary)	50	3.65	1.46
20	Ore Load Haul Dump (Ore into Grizzly by Loader)	7.30	2.92	Water Spray (as necessary)	50	3.65	1.46
21	Surface Crushing Ore (Nordberg Crusher)	18.25	7.30	Fabric Filter	99	0.18	0.07
22/01	Ore Conveyed from Apron Feed to Mill	7.30	2.92	Enclosed	67	2.41	0.96

EU #	EU Name	PM	PM_{10}	Control Strategy	%	PM	PM_{10}
22/02	Ore Conveyed from Crusher to Stacker	10.95	4.38	Enclosed Fabric Filter	99	0.11	0.04
23/01	Native Borrow @ Tailings Embankment	0.79	0.20	None	0	0.79	0.20
23/02	Waste from Stockpile below Stacker to Tailings Embankment	7.30	2.92	Water Spray (as necessary)	50	3.65	1.46
23/03	Waste @ Tailings Embankment (Spreading)	3.65	1.46	Water Spray (as necessary)	50	1.83	0.73
24/01	Crushing Bedding Material	0.0027	0.0012	None	0	0.0027	0.0012
24/02	Conveying Bedding Material	0.01	0.002	Enclose, Water Spray (as necessary)	50	0.005	0.001
24/03	Material Handling Bedding Material	0.01	0.002	None	0	0.01	0.002
26	Pile Forming (Radial Stacker)	3.65	1.46	Water Spray (as necessary)	50	1.83	0.73
27/01	Cement Batch Plant (Cement Unloading - Silo)	0.05	0.03	Fabric Filter	99	0.00	0.00
27/02	Dumping Sand and Gravel into Stockpiles	0.00	0.00	None	0	0.00	0.00
27/03	Mixer Loading to Truck	0.05	0.01	None	0	0.05	0.01
27/04	Stockpile (Wind Erosion)	0.00	0.00	None	0	0.00	0.00
27/05	Transfer to Bin (Sand & Gravel)	0.00	0.00	None	0	0.00	0.00
27/06	Weigh Hopper Unloading	0.05	0.03	None	0	0.05	0.03
Total Uncontrolled Emissions		**411.52**	**119.80**	**Total Controlled Emissions**		**90.50**	**30.03**

- A complete PM/PM_{10} emission inventory is on file with the Department

TABLE II – Gaseous Emissions

EU #	Emitting Unit (EU)	SO_2 (TPY)	CO (TPY)	NO_x (TPY)	VOC (TPY)
2	Mine Ventilation Exhaust	0.00	30.59	61.96	---
9	Mobile Vehicle Exhaust (Surface)	3.90	15.43	35.76	2.61
10	Diesel Generators (3, Surface)	1.44	3.03	11.40	0.29
11	Mobile Gasoline Exhaust (Surface)	0.02	1.38	0.36	0.69
12	Propane (Surface)	---	0.29	2.10	0.05
Total Gaseous Emissions		**5.36**	**50.72**	**111.58**	**3.64**

- Diesel equipment and unleaded gasoline emissions are considered fugitive (mobile source) emissions and are not counted toward facility PTE for the purpose of Title V permitting
- A complete gaseous emission inventory is on file with the Department

IV. BACT Determination

A BACT determination is required for each new or altered source. Stillwater Mining Company shall install on the new or altered source the maximum air pollution control capability technically practicable and economically feasible, except that BACT shall be utilized. The current permit action is an administrative amendment and does not require a BACT analysis and determination.

V. Existing Air Quality

Baseline air quality (particulate) has been monitored in the area during two periods prior to permitted operation of the Stillwater Mining Company facility. The first monitoring was conducted during portions of 1981 and 1982 and the second was during portions of 1988 and 1989. All historic baseline values are well below the applicable ambient air quality standards. Further, as required by previous permits, over the past 5 years Stillwater Mining Company has operated an ambient monitoring network and shown an average annual PM_{10} concentration of 5.3 micrograms per cubic meter ($\mu g/m^3$) of ambient air, which is approximately 10% of the PM_{10} ambient air quality standard of 50 $\mu g/m^3$. The area is currently in compliance with the applicable ambient air quality standards for PM_{10}.

The project area is classified as a Class II area under the Prevention of Significant Deterioration (PSD) regulations. This Class II area includes the Absaroka-Beartooth Wilderness area to the south. The nearest PSD Class I area is Yellowstone National Park, approximately 15 miles south of the project area. In the immediate project area there are no significant sources of air contaminants. Local sources for air pollutants include slash burning and unpaved roads.

VI. Ambient Air Impact Analysis

The current permit action is an administrative amendment and does not increase emissions of any pollutant from the permitted Stillwater Mining Company facility. Therefore, the current permit action will not result in any additional impacts to the ambient air quality of the area.

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department has conducted a private property taking and damaging assessment and has determined there are no taking or damaging implications.

VIII. Environmental Assessment

The current permit action is an administrative amendment and does not require the preparation of an environmental assessment.

Permit Analysis prepared by: M. Eric Merchant, MPH
Date: September 26, 2006